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10/674,721

09/30/2003

Walter Etter

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Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

LENNOX, NATALIE

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/674,721	Applicant(s) ETTER, WALTER	
	Examiner NATALIE LENNOX	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action has been issued in response to the amendments filed on January 22, 2008. Claims 1-23 are pending with new claims 13-23.

Election/Restrictions

1. Newly submitted claims 13-17 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-12, and 18-23, drawn to changing a gain parameter in an encoded speech signal in a variable and cyclical manner, classified in class 704, subclass 225.
 - II. Claims 13-17, drawn to computing a new fixed codebook gain index as a function of an extracted fixed codebook gain index and an estimated noise, and incrementing the new fixed codebook gain index over a plurality of sub-frames, classified in class 704, subclass 225.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because they require further search. The

subcombination has separate utility such as computing new fixed codebook gain index as a function of an extracted fixed codebook gain index and an estimated noise.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-17 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

4. Applicant's arguments filed January 22, 2008 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. 112, 2nd paragraph, of claims 1-12, applicant argues that "the term "cyclical manner" as recited in claims 1 and 7 meets the

threshold of providing a reasonable degree of clarity and particularity and that the Examiner has not provided any analysis as to why the term is vague and unclear.” Further, applicant argues that the “disclosure contains numerous references through exemplary embodiments of the “cyclical manner” in which the gain parameter is changed” such as Fig. 4C, page 8, lines 1-30, page 9, line 26 through page 10, line 29, and page 8, lines 21-27. Examiner acknowledges the exemplary examples provided in the disclosure, however the term “cyclical manner” is too broad and is not explicitly defined in applicant’s disclosure nor is it a term widely used and defined in the art. As cited in claims 1 and 7, a person having ordinary skill in the art could give a variety of reasonable interpretations to this “cyclical manner,” to which examiner broadly interpreted it as representing any variation over a given period of time.

Regarding claims 1-3 and 7-9, applicant argues that Cellario “does not appear to provide any teaching or suggestion about the modification of an encoded speech signal to produce an altered encoded speech signal.” Examiner respectfully disagrees with the applicant given that Cellario’s Col. 6, lines 33-37 provides for updating the gain in the subframe, therefore modifying the gain in the signal. Further, applicant argues that “applicant’s claimed invention is directed toward the modification of an existing excitation gain to alter the encoded speech signal,” however this is not stated in the claims.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-12 and 18-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As per claims 1, 7, and 18, applicant refers to a "cyclical manner" to describe the way a gain parameter is changed, however the term "cyclical manner" is too broad and is not explicitly defined in applicant's disclosure nor is it a term widely used and defined in the art. As cited in claims 1, 7, and 18, a person having ordinary skill in the art could give a variety of reasonable interpretations to this "cyclical manner," to which examiner broadly interpreted it as representing any variation over a given period of time.

Claims 2-6, 8-12, and 19-23 are also rejected as being dependent over the rejected claims and not curing this indefiniteness.

Claim Rejections - 35 USC § 102

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3, 7-9, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cellario et al. (US Patent 5,519,807).

As per claim 1, Cellario teaches a method for modifying the level of a speech signal, wherein the speech signal is encoded as a bit stream, the method comprising:
changing a gain parameter in the encoded speech signal in a variable and cyclical manner so that changes in gain are temporally dispersed (Col. 4, lines 34-39,

Col. 6, lines 25-29 and 33-37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle.).

As per claim 7, Cellario teaches a method for modifying the level of a speech signal wherein the speech signal is encoded as a bit stream such that the speech signal is transported in one or more frames, each frame including a plurality of sub-frames, the method comprising:

changing a gain parameter in the encoded speech signal in a variable and cyclical, manner over a plurality of sub-frames so that changes in gain are temporally dispersed over one or more sub-frames (Col. 4, lines 34-39, Col. 6, lines 25-29 and 33-37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle.).

As per claim 18, Cellario teaches an apparatus for modifying a bit stream corresponding to a speech signal, wherein the bit stream carries the speech signal in frames, each frame including a plurality of sub-frames, the apparatus comprising:

a decoding element adapted to extract a gain parameter from the bit stream (Col. 4, lines 34-39, Col. 6, lines 25-29 and 33-37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle.); and

a gain dispersion unit adapted to increment the gain parameter in a variable and cyclical manner over a plurality of sub-frames such that changes in gain are temporally dispersed over a plurality of sub-frames (Col. 4, lines 34-39, Col. 6, lines 25-29 and 33-

37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle.).

As per claims 2, 8, and 19, Cellario teaches the methods according to claims 1 and 7, and the apparatus of claim 18, wherein the gain parameter is a fixed codebook gain index (Col. 4, lines 34-39, since CELP coding implies adjusting fixed codebook gains, it would be inherent to say that the gain parameter adjusted is the fixed codebook gain index).

As per claim 3, Cellario teaches the method according to claim 2, wherein changing the gain parameter comprises incrementing the fixed codebook gain index in a variable and cyclical manner so that the increment in fixed codebook gain is temporally dispersed (Col. 4, lines 34-39, Col. 6, lines 25-29 and 33-37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle. Since CELP coding implies adjusting fixed codebook gains, it would be inherent to say that the gain parameter adjusted is the fixed codebook gain index. Also since an optimum gain will be determined for each subframe (Col. 4, lines 34-37), the increment in fixed codebook gains is temporally dispersed.).

As per claims 9 and 20, Cellario teaches the method and apparatus according to claims 8 and 19, respectively, wherein changing the gain parameter comprises incrementing the fixed codebook gain index in a variable and cyclical manner over the

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plurality of subframes so that the increment in fixed codebook gain is temporally dispersed (Col. 4, lines 34-39, Col. 6, lines 25-29 and 33-37, and also Col. 7, lines 52-56, wherein the changed parameter is the updated $i(g_{max})$ during the test cycle. Since CELP coding implies adjusting fixed codebook gains, it would be inherent to say that the gain parameter adjusted is the fixed codebook gain index. Also since an optimum gain will be determined for each of the subframes (Col. 4, lines 34-37), the increment in fixed codebook gains is temporally dispersed.).

Allowable Subject Matter

9. Claims 4, 10, and 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

As per claims 4, there is no prior art reference, alone or in combination, that specifically teaches or suggests the limitation of maintaining the fixed codebook gain index at a first index increment value for a first portion of a cycle period; and incrementing the fixed codebook gain index to a second index increment value for the remaining portion in that cycle period.

As per claims 10 and 21, there is no prior art reference, alone or in combination, that specifically teaches or suggests the limitation of maintaining the fixed codebook

gain index at a first index increment value for one or more sub-frames in a cycle period; and incrementing the fixed codebook gain index to a second index increment value for the remaining sub-frames in that cycle period.

Claims 5-6, 11-12, and 22-23 are allowable because they further limit claims 4, 10, and 21, respectively.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATALIE LENNOX whose telephone number is (571)270-1649. The examiner can normally be reached on Monday to Friday 9:30 am - 7 pm (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL 04/23/2008
/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626